

What is claimed is:

1. A cutter tool comprising:

a tool holder including a holder surface having a bore extending rearward through the holder surface, a relieved portion surrounding the bore and defining an inner edge of the holder surface, the holder surface having an outer edge spaced from the bore;

a cutting bit including a body having a front cutting tip, a rearward projecting shank rotatably mounted in the bore, and a rearward facing bit shoulder disposed at a front end of the shank; the shank being rotationally symmetric about a longitudinal axis of the cutting bit, and

a washer disposed between the bit shoulder and the holder surface, the washer comprising a front surface including a portion in sliding engagement with the bit shoulder, a back surface contacting the holder surface, an inner bore receiving the rearward projecting shank, the back surface of the washer including an axially symmetric protruding portion received in the relieved portion of the tool holder to inhibit lateral motion between the washer and the tool holder, and an axially asymmetric lip portion joining outer perimeters of the front and back surfaces, the axially asymmetric lip engaging a portion of the holder surface outer edge to inhibit rotation of the washer relative to the holder surface.

2. The cutter tool of claim 1 further comprising a sleeve surrounding the cutting bit shank including a forward edge confronting the protruding portion of the back surface of the washer to retain the washer on the cutting bit adjacent to the rearward facing bit shoulder.

3. The cutter tool of claim 1 wherein the lip comprises a rearward extension along an outer edge of the back surface of the washer.

4. The cutter tool of claim 1 wherein the lip comprises a linear outer edge portion on a radially outer surface of the washer.

5        5        The cutter tool of claim 1 wherein the washer outer edge is in the form of an ellipse, and the lip is positioned on the back surface of the washer on a major axis of the ellipse.

6.        6.        The cutter tool of claim 1 wherein the washer outer edge is in the form of a rectangle.

7.        7.        The cutter tool of claim 1 wherein the washer front surface includes an outer tapered portion and an inner tapered portion, both tapered portions tapering away from a circular line in sliding contact with the rearward facing bit shoulder.

10        8.        A cutter assembly comprising a cutting bit and a washer, the cutting bit comprising a body forming a forward cutting tip, a rearward extending shank, and a rearward facing bit shoulder disposed at a forward end of the shank; the shank being rotationally symmetric about a longitudinal axis of the cutting bit, the washer including an inner edge  
15        15        defining a central hole receiving the cutting bit shank, a front surface and a back surface joined by an outer edge of angularly variable radius, the front surface including an outer tapered portion and an inner tapered portion, both tapered portions tapering away from a circular line in sliding contact with the rearward facing bit shoulder, and an outer edge including an  
20        20        asymmetric lip for engaging an outer shoulder of a holder to inhibit rotation of the washer relative to the holder.

9.        9.        The cutter assembly of claim 8 further comprising a sleeve surrounding the cutting bit shank including a forward edge positioned to confront the back surface of the washer adjacent the inner edge for  
25        25        retaining the washer on the cutting bit adjacent to the rearward facing bit shoulder.

10.        10.        The cutter assembly of claim 9 wherein the washer central hole includes a smooth inner surface facilitating rotation of the cutting bit relative to the washer.

11. The cutter assembly of claim 10 wherein the lip comprises a linear rearward extension along an outer edge of the back surface of the washer.

5 12. The cutter assembly of claim 10 wherein the back surface of the washer includes an axially symmetric protruding portion for inhibiting lateral movement of the washer.

13. A washer comprising a front surface and a back surface, an inner edge connecting the front and back surfaces and defining a central hole about an axis passing through the central hole, an outer asymmetric edge of angularly variable radius from the axis connecting the front and back surfaces, the back surface including an annular protrusion immediately surrounding the central hole and the front surface including a ring shaped elevated portion between the inner and outer edges.

14. The washer of claim 14 wherein the inner edge includes a smooth surface inner bore facilitating rotation of articles within the bore relative to the washer.

15. The washer of claim 14 wherein the outer edge is generally rectangular.

16. The washer of claim 14 wherein the outer edge comprises a linear rearward extension along an outer edge of the back surface of the washer.

17. The washer of claim 14 wherein the outer edge comprises an ellipse having a lip is positioned on the back surface of the washer on a major axis of the ellipse.

25 18. The washer of claim 14 wherein the ring shaped elevated portion of the front surface is defined by an outer tapered portion and an inner tapered portion, both tapered portions tapering away from the ring shaped elevated portion.